

THE DER WEEKLY

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Industry News

Fuel Cell Stocks Surge

Shares in fuel cell companies rose last week, after Ballard Power announced a \$22 million deal to sell its fuel cells to Ford Motor Company and California's decision to research the technology to help meet the state's power needs. Reuters News Service cited a renewed focus on domestic energy supply as another reason shares of fuel cell company stocks have recently surged. On September 24, shares in several fuel cell companies rose significantly: Plug Power 29 percent, Ballard Power Systems 22 percent, and FuelCell Energy 16 percent.

Reuters News Service, September 26

Teledyne Energy Systems Tests 3-kW Fuel Cell

Teledyne Energy Systems, a provider of onsite gas and power generation systems, announced that the company has completed operational tests of a 3-kW, natural-gas-fueled stationary fuel cell. The prototype is expected to support the development of commercial products that will provide backup power for residential, remote, and telecommunications power applications. The fuel cell is approximately the size of a refrigerator and can use standard consumer grade natural gas directly from the meter. Teledyne plans to continue testing of the unit through 2001 and develop follow-up units in 2002.

Teledyne Energy Systems Press Release, September 27

Two Major Programs in CA Benefit Farmers

California is continuing two programs offering incentives to farmers for reducing their peak loads and for installing manure-to-electricity systems. In fact, the California Energy Commission has initiated an advertising campaign to encourage farmers to apply. Incentives are paid on improvements that become operational by May 31, 2002, for qualifying high-efficiency electrical systems, motors, refrigerators and pumps, as well as tests and repairs of existing pumps. The four general categories include high-efficiency electric or other overall conservation, irrigation-pump testing and retrofit or repair, advanced metering and telemetry to monitor peak-load usage, and natural-gas retrofit. San Joaquin County Agricultural Commissioner Scott Hudson encouraged area farmers to consider seeking a grant, "I think that could be important to them. It could help improve efficiencies at a time when farm profit margins grow exceedingly thin." Reportedly, there is a great amount of interest in dairy power projects since applications became available two weeks ago. The program is open to any dairy in California, awards will be made

competitively, and earlier applications have a greater chance of success.

The Record, Stockton, CA, September 6

Rethinking the Electric Grid

In the wake of the September 11th attacks, questions have arisen over the vulnerability of the U.S. grid and prompted increased calls for distributed energy resources. While governments are expected to remove many barriers to DER, experts believe that buyers will concentrate on backup power systems instead of primary generators. Current technology such as engine generators and lead-acid batteries are expected to comprise most of the systems purchased, but there is an substantial opportunity for next-wave technologies – flywheels, microturbines, etc. – to make a strong showing.

CERA.com, September 26



Breakthrough in Hydrogen Extraction at MIT

The Massachusetts Institute of Technology has developed a new process to use sunlight to extract hydrogen from hydrochloric acid. Professor Daniel Nocera and former MIT graduation student Alan Heyduk created a rhodium-based molecule that acts as a catalyst in the process.

As hydrogen production is the most formidable barrier to developing practical commercial fuel cells, the discovery is expected to have a significant impact. "The hydrogen supply, despite everyone's pledges to work on it, is the biggest hurdle for fuel cell companies," said Paul Osenar, an official with Marlborough, MA-based fuel cell start-up company Protonex. Nocera says his next goal is to further imitate photosynthesis by extracting hydrogen from water.

Massachusetts High Tech, September 17

Nuvera Fuel Cells Postpones IPO

Nuvera Fuel Cells, a company that designs and develops fuel cell stacks, fuel processors, and integrated fuel cell systems, is postponing its planned IPO in order to concentrate on "raising capital, developing technology and pursuing partnerships."

Nuvera CEO Mark Brodsky said, "During the past year, we made great progress toward commercializing our fuel cell technology establishing partnerships with global organizations...and forming a joint venture with Air Liquide."

Nuvera Press Release, September 21

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Energy Star retail partner Lowes Home Warehouses has printed 700,000 copies of a 12-page Energy Star Solutions Guide for distribution through the company's nearly 700 retail locations during October. *

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Power Crunch: The DER Weekly Feature

Communications and Controls Workshop, Keystone, Colorado

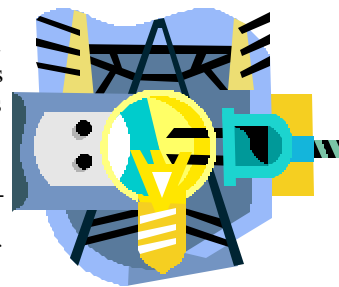
The Communications and Controls (C&C) workshop held on September 25-26 was part of a technology roadmapping process to define research and development (R&D) needs and priorities for C&C technologies for DER. The resulting roadmap will set the R&D strategies and directions for the DOE C&C Initiative and will include a broad range of distributed energy resources.

C&C is a new program within DER that is chartered to provide enabling C&C technologies to optimize the off- and on-grid operations of distributed energy components, subsystems, and systems. Advanced, lower-cost communications and control devices are needed to reach the OPT goal of supplying 20% of U.S. electric capacity additions (~50 GW) with distributed energy systems by 2010. Existing R&D projects in OPT and DER (such as those under the Energy Storage Systems, Transmission Reliability, Distributed Power, and Thermally Activated Technologies programs) will be coordinated while determining the scope of C&C activities. The C&C charter strategy is to partner with industry in joint research, development, demonstration, and deployment (RD3) efforts, beginning with development of vision goals and technology pathways, through implementation of the C&C Technology Roadmap. This workshop was a joint industry/government endeavor which will lead to the development of the Roadmap.

The workshop was attended by 45 representatives from technology manufacturers and suppliers, energy service providers, utilities, industrial and commercial energy users, and Federal government. Eric Lightner, Office of DER, is the C&C program manager for this focus area.

The participants spent the majority of their time in facilitated breakout sessions answering several focus questions. From these questions the participants created a matrix with the top R&D needs. They were asked to give the time frame, lead and supporting participants, and the next steps for each of these R&D needs.

In the last session of the day, the participants expressed their final thoughts on the workshop and relayed specific actions the program should take. Some of these thoughts included the need for test-bed funding, interagency involvement, and inter-program involvement within DER. The vast majority of the participants had auspicious comments on the usefulness of the workshop.



DOE News

DOE Announces HTS Awards

On September 24, Secretary of Energy Spencer Abraham announced that seven teams have been selected to receive approximately \$57 million to support research advancing the introduction of high temperature superconductivity (HTS) into the U.S. market. Total investment in the effort will be \$117 million, with approximately \$60 million to be matched by the industry teams. The new efforts will be focused on the development and field testing of technologies to improve the efficiency, capacity, and reliability of the U.S. electricity infrastructure. For details on the proposals and project partners, visit www.energy.gov/HQPress/releases01/seppr/pr01161.htm.
U.S. Department of Energy Press Release, September 24

Non-Utility Power Conference

Stephen Waslo of the Chicago Operations Office was a

presenter at the 15th Annual Non-Utility Power Conference of the Midwest Cogeneration Association. The subject of the conference was the fit of CHP and distributed generation in the evolving energy market. The conference covered topics on cogeneration technology, environment, utility interconnects, electric restructuring, fuels, and case histories. The Illinois EPA, U.S. EPA, suppliers, utilities, non-utility power providers, and customers were represented at the conference.

Electricity Market Auction Experiments

The DOE/OPT Transmission Reliability program has been supporting Bob Thomas and his colleagues at Cornell in testing various approaches to electricity bidding and generator commitment in their experimental laboratory. They have had success evaluating "pay as bid," the efficiency properties of self commitment, self-organizing collusion, the dependence of power flows on market structure, impact of demand response, and similar features of our not-so-competitive electricity markets. Mr. Thomas will be speaking at DOE Headquarters on October 2.

Calendar of Events

As always, please check with event sponsors to confirm date and place of all events. If your organization's event is postponed or cancelled, contact Brian Marchionini at bmarchionini@energeticsinc.com.

SEPTEMBER 2001			
30 – Oct. 5	UPEX'01: The Photovoltaic Experience Conference & Expo	Sacramento, CA	Jjudd@ttcorp.com; hosted by Sacramento Municipal Utility District; includes distributed energy technologies workshop
OCTOBER 2001			
2-3	Midwest Electrical Conf. and Expo	Indianapolis, IN	www.electricleagueindiana.org/expo2001/index.htm
4-5	Distributed Generation Seminar	Boston, MA	www.aeecenter.org
7-10	APPA Telecommunications Wkshp.	Seattle, WA	www.appanet.org ; Bethany Luna (202) 467-2993
14-17	National Center for Photovoltaics Program Review	Lakewood, CO	barbara_ferris@nrel.gov, 303-275-3781
14-17	NASEO Annual Meeting	Portland, ME	www.naseo.org — Rescheduled from September 16-19 — to request a refund of meeting registration fee contact Donna Brown at dgbrown@erols.com
16-17	CHP Roadmap Meeting	Baltimore, MD	John Jimison, johnj@bcjlaw.com
16-17	Two-day Seminar on Materials for Corrosive Applications	Wilmington, DE	Rick Sutherlin, (541) 967-6924
16-17	Energy & Environmental Technologies Conference	Atlantic City, NJ	www.eetech.org CANCELLED!
22-23	Fuel Cells for Portable Devices	San Francisco, CA	www.f-cellsnetwork.com/NA-1660-01
24-26	World Energy Engineering Congress and Combined Heat & Power Expo	Atlanta, GA	www.agcc.org (CHP Expo www.aeecenter.org)
24-27	Excellence in Building 2001	Orlando, FL	www.eeba.org/conference
28-Nov. 2	2001 IEEE/PES Transmission and Distribution Conference and Expo	Atlanta, GA	www.ieeet-d.org
29-30	Reliability-Focused Energy Efficiency Conference: Lessons Learned in 2001	Berkeley, CA	www.aceee.org

Most Lowes stores will also hold energy efficiency clinics on Saturdays during October, covering topics such as installing insulation, ceiling fans, and programmable thermostats. *

Calendar of Events

NOVEMBER 2001

1-2	3rd Annual International Symposium on Distributed Energy Resources	San Diego, CA	www.cader.org ; Robert Dixon, Deputy Assistant Secretary, Office of Power Technologies invited to speak
1-4	World Congress for Hydrogen Economy	Denver, CO	www.hydrogennow.org
6	NAESCO DG Conference	Miami, FL	www.naesco.org/conference.htm
6-7	Empire Energy & Environment Expo	Albany, NY	info@eba-nys.org
7	Ohio Fuel Cell Technology Symposium	Cleveland, OH	www.cesnet.org
7-9	NAESCO 18th Annual Conference	Miami, FL	www.naesco.org/conference.htm
11-14	113th NARUC Annual Convention	Philadelphia, PA	www.naruc.org
12-14	Fuel Cells for Stationary, Automotive and Portable Apps.	Fort Lauderdale, FL	Florida Educational Seminars, (561) 367-0193
27-28	Business for Fuel Cells for Stationary Applications	Brussels, Belgium	www.eyeforfuelcells.com
28-29	Business Energy Solutions Expo	Orlando, FL	www.aeecenter.org ; www.tecoenergy.com
28-30	The Power to Choose: Creating an Expanded DER Industry	Washington, DC	cs@energeticsinc.com

DECEMBER 2001

3-4	4th Business Case for Opportunity and Investment in Fuel Cells	Miami, FL	www.cbnet.com
5-7	4th Annual Interactive Energy Conf.	Houston, TX	www.interactiveenergy.com/2001
11-13	Power-Gen International	Las Vegas, NV	www.pennwellevents.com

JANUARY 2002

14-15	Material Technologies for Fuel Cells and Power Electronics	Cocoa Beach, FL	www.ceramics.org/meetings/ECD2002/expo.asp
28-Feb.1	Distributed Power Program Annual Review Meeting	Arlington, VA	kimberly_taylor@nrel.gov
29-Feb.1	Reducing Your Energy Costs Conference and Exhibit	New Orleans, LA	Stuart Steller, 781-939-2411, s.steller@cbnet.com

FEBRUARY 2002

27-Mar 1	DistribUTECH	Miami Beach, FL	www.pennwellevents.com
6-7	Fuel Cell Dynamics: Reality, Not Hype	New York, NY	www.alliedworld.com

MARCH 2002

17-21	EPRI's 7th Distributed Resources Conference and Expo	Dallas, TX	lgoldie@epri.com
19-21	Electric Power 2002	St. Louis, MO	www.electricpowerexpo.com

*Source: Sept. 26 Office of Building Technology, State and Community Programs Weekly Report

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